

REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1-14 and 16-30 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Rejection under 35 USC 112, second paragraph

Claims 8-24 and 29-30 stand rejected under 35 USC 112, second paragraph as being indefinite. This rejection is respectfully traversed.

The Examiner rejected claim 8, 29 and 30 as lacking antecedent basis for "the RVDT". By way of the present amendment, Applicant has amended claim 1 to include the limitations of claim 15 including the reference to the RVDT. Accordingly, Applicant submits that these rejections are rendered moot.

Claims 9 and 16 have been rejected as having improper dependencies. This has now been corrected by way of the present amendment.

Claims 11-14 were rejected as not clearly reciting a step of a method. By way of the present amendment, these claims have been reworded to clearly define a step.

Claims 10 and 17-24 are only included as depending from other claims which had difficulties. Accordingly, all of problems pointed out by the Examiner have been overcome.

Rejection under 35 USC 102

Claims 1, 2, 4, 5, 7, 12, 13 and 28 as being anticipated by Chang et al. (US Patent 5,437,445). This rejection is respectfully traversed.

The Examiner states that the Chang et al. patent teaches a media sensing method including setting an initial reference range and comparing the initial reference range with a reference range of currently discharge media and variably setting a new initial reference range on the basis of the comparison value. Applicant submits that the present claims are not anticipated by this reference.

Applicants agree that the Chang et al. reference provides an apparatus and method for detecting doubled sheets which determines the thickness of the sheets and compares an average

thickness to a pre-determined reference value so as to update the reference value. However, Applicant submits that claim 1 as presently amended includes additional limitations not seen in this reference.

In particular, Applicant has now amended claim 1 to include the limitations previously found in claim 15. Thus, the claim now makes it clear that not only is the reference range updated by comparing the original range to the range of currently discharged media but that the skew, the width, the thickness of the media and the distance between media are discriminated only using a feed sensor and an RVDT sensor. This is described, for example, on page 17, line 7 of the present application. The use of only the two sensors in place of a number of sensor such as shown in Figure 1 is a clear advantage of the present invention over the prior art. Thus, the present invention is not directed only to the concept of updating the reference range, but also to its arrangement of sensors to determine the various parameter values. For this reason, Applicant submits that claim 1 is allowable over Chang et al.

Furthermore, claims 2-14 and 16-24 depend from claim 1, as such are also considered to be allowable. In addition, each of these claims recite other features that make them additionally allowable. The Examiner has already indicated that claim 24 is allowable as well. In addition, claims 14 and 16-18 have not been rejected over any prior art yet.

Claim 28 is another independent claim which follows a similar format to claim 1. That is, an initial reference range for both width and thickness is set and an average is stored by discharging the media and setting a reference range. The two ranges are compared and the initial range is adjusted. This comparison is in response to media withdrawal request. Applicant submits that Chang et al. does not show the features of this claim as well.

In particular, the claim specifies that the average value of both the thickness and the width of the bills is obtained and accumulatively stored by discharging the sampled media. The Chang et al. reference shows the determination of an average thickness and updates the value of the thickness. However, Applicant submits that the other features of this claim have not been met. Accordingly, Applicant submits that claim 28 as well as dependent claims 29 and 30 are likewise allowable.

Rejection under 35 USC 103

Claims 3, 9 and 10 stand rejected under 35 USC 103 as being obvious over Chang et al. in view Uchiyama (US Patent 5,029,837) and Eck et al. (US Publication 2003/0011464). This rejection is respectfully traversed.

The Examiner points out the Uchiyama teaches the use of a potentiometer and Eck et al. teaches that digital potentiometers can be substituted for analog potentiometers. Applicant submits that even if these references do show these features that these claims remain allowable based on their dependency from allowable claim 1.

Claims 6, 8, 15, 19-23, 25-27 and 29-30 stand rejected under 35 USC 103 as being obvious over Chang et al. in view of Uchiyama and Davis et al. (US Patent 4,910,488). This rejection is respectfully traversed.

The Examiner relies on Davis et al. to teach that it is well known to employ an RVDT to measure mechanical angular displacement. Applicant submits that the claims are patentable over this three-way combination of references.

Claims 6, 8 and 19-23 depend from claim 1 and as such are also considered to be allowable. Claim 15 has been canceled and its limitations have been incorporated into claim 1.

Even if Uchiyama and Davis et al. teach that it is known to use a potentiometer such as an RVDT to measure mechanical angular displacement, the combination of three references still does not teach the determination of the skew, width, thickness and distance between media using only the feed sensor and RVDT as presently described in claim 1. Accordingly, Applicant submits these claims are also allowable.

Claim 25 is another independent claim which describes the sensing method in the multi-media discharge mode. This claim includes the shifting of the reference value by a pre-determined value and the step of comparing the voltage value according to the thickness of the discharged multi-media and rejecting the discharged multi-media if the detected voltage is greater than the initial value. Applicant submits that the combination of Chang et al., Uchiyama and Davis et al. still do not teach the invention as described in claim 25 since it does not relate to such a multi-media device and does not include the steps involved in the embodiment relating to

such a multi-media device. Accordingly, Applicant submits that claim 25, as well as dependent claims 26 and 27 likewise are allowable over this three way combination of references.

Conclusion

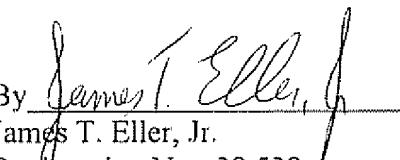
In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse, Reg. No. 27,295 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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